WHAT IS CLAIMED IS:

1. An information recording apparatus for recording information on a recording medium by irradiating a pulsed light onto the recording medium, comprising:

a rotating mechanism that rotates the recording medium at one of predetermined recording speeds;

an optical head irradiating the pulsed light onto the recording medium; and

a controller that controls the optical head so as to irradiate the pulsed light so that a length of a recording mark formed on the recording medium by irradiation of the pulsed light is an n times of a period Tw of a basic clock, where n is a natural number, the controller also controls the pulsed light in accordance with one of predetermined recording strategies which matches the one of the predetermined recording speeds so that the pulsed light contains a train of multi-pulses of a light having a recording power Pw and a light having a bias power Pb is

irradiated during intervals between the adjacent multi-pulses and a light having an erasing power Pe is irradiated during intervals between adjacent trains of the multi-pulses, where a relationship Pw>Pe>Pb is satisfied,

wherein the controller adds an off-pulse to an end of a final pulse of the train of multi-pulses so that the light having the bias power Pb is irradiated during a period T1 of the off-pulse; and

the controller is capable of setting the period T1 of the off-pulse to a predetermined value so that a relationship $0 \leqq T1 < 0.2Tw$ is satisfied.

2. The information recording apparatus as claimed in claim 1, wherein the controller sets the predetermined value of the period T1 of the off-pulse when recording is performed in accordance with one of the predetermined recording strategies, which is used for the recording speed equal to or higher than 11 m/s.

3. The information recording apparatus as claimed in claim 1, wherein the recording medium includes a recording layer formed of a material changeable into either an amorphous state and a crystal state, and the controller uses one of the predetermined recording strategies according to which the predetermined value of the period T1 of the off-pulse is set when a recrystallization upper limit linear velocity of the recording medium is 9 m/s to 13 m/s.

4. The information recording apparatus as claimed in claim 1, wherein the controller uses one of the predetermined recording strategies according to which, when a rising of a head pulse of the train of the multi-pulses leads a time when one period Tw has passed after a rising of a logical data pulse by a time interval dTtop, a relationship $-3Tw<dTtop<0$ is satisfied.

5. The information recording apparatus as claimed in claim 1, wherein the controller uses one of the predetermined recording strategies according to which the period T1 of the off-pulse is set as T1=0.

6. The information recording apparatus as claimed in claim 1, wherein the recording medium is a DVD+RW, and the predetermined recording strategies includes a strategy for a recording speed of 3.5 m/s, a strategy for a recording speed of 8.4 m/s and a strategy for a recording speed of 14 m/s, and wherein the predetermined value of the period T1 is set when the strategy for the recording speed of 14 m/s is used to generate the pulsed light when recording.

7. An information recording method for recording information on a recording medium by irradiating a pulsed light onto the recording medium so that a length of a recording mark formed on the

recording medium by irradiation of the pulsed light is an n times of a period Tw of a basic clock, where n is a natural number, the recording medium including a recording layer formed of a material changeable into either an amorphous state and a crystal state, the recording medium having a recrystallization upper limit linear velocity of 9 m/s to 13 m/s, the method comprising the steps of:

irradiating the pulsed light containing a train of multi-pulses of a light having a recording power Pw and a light having a bias power Pb during intervals between the adjacent multi-pulses and a light having an erasing power Pe during intervals between adjacent trains of the multi-pulses, where a relationship $Pw>Pe>Pb$ is satisfied; and

adding an off-pulse to an end of a final pulse of the train of the multi-pulses so that the light having the bias power Pb is irradiated during a period T1 of the off-pulse, the period T1 of the off-pulse being set to a predetermined value so that a relationship $0 \leqq T1 < 0.2Tw$ is satisfied.

8. The information recording method as claimed in claim 7, wherein the predetermined value is set to the period T1 of the off-pulse when recording is performed at recording speed equal to or higher than 11 m/s.

9. The information recording method as claimed in claim 7, wherein, when a rising of a head pulse of the train of the multi-pulses leads a time when one period Tw has passed after a rising of a logical data pulse by a time interval dTtop, a relationship - $3Tw<dTtop<0$ is satisfied.

10. The information recording method as claimed in claim 7, wherein the period T1 of the off-pulse is set as $T1=0$.